

STATUS OF THE CLAIMS

Claims 1 – 6 and 17 -25 are pending.

Claims 1 – 6 and 17 -25 stand rejected.

Claims 1 and 17 have been amended, without prejudice or disclaimer.

Claims 7 – 16 were previously cancelled, without prejudice or disclaimer.

REMARKS

The withdrawal, as noted in Paragraph 6 of the present Office Action, of all rejections under 35 U.S.C. 103 is gratefully acknowledged.

Rejection of Claims 1-6 Under 35 U.S.C. § 101

Claims 1-6 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Specifically, claims 1-6 stand rejected under 35 U.S.C. § 101 as not falling within one of the four statutory categories of inventions. Claim 1 has been amended to clarify aspects of the Applicant's invention.

Support for the amendments to claim 1 can be found throughout the specification. Specifically, support for the addition of "of video pictures" can be found, for example, on page 1, lines 8-9. Support for "to suppress a dithering pattern from appearing to a viewer observing a moving object on the picture" can be found, for example, on page 8, lines 31-35. Support for the addition of "in a dithering device" can be found, for example, on page 6, line 33 through page 7, line 9. Support for the addition of "the movement of" and "by using a motion estimator device" can be found, for example, on page 8, lines 31-35. Support for the addition

of "in a dithering device to suppress a dithering pattern from appearing to a viewer observing the moving object on the picture" can be found, for example, on page 8, lines 31-35 and on page 6, lines 18-20. Support for the addition of "on the display device" can be found on page 6, lines 22-26. Accordingly, no new matter has been added.

Claim 1 has been amended to clarify the "process" under 35 U.S.C. § 101. The wording of amended claim 1 specifically points out that the process is tied to a particular machine or apparatus. A display device is now recited. Additionally, the "applying a dithering function" step of amended claim 1 is specifically tied to a statutory machine or apparatus as a "dithering function ... in a *dithering device*." Further, the step of "computing at least one motion vector" is tied to a "*motion estimator device*." Still further, the step of "changing at least one of the phase, amplitude, spatial resolution and temporal resolution of said dithering function" is tied to "*the dithering device*." Finally, the step of "outputting the dithered video data" is performed "on the *display device*."

The process as recited in claim 1 additionally transforms underlying subject matter to a different state. Specifically, the claimed process takes "video pictures" and "*improves a grey scale portrayal* of video pictures."

Thus, as amended, claim 1 is directed to statutory subject matter under 35 U.S.C. § 101 because every step of claim 1 ties directly to another statutory category, and further because the process recited in claim 1 transforms underlying subject matter to a different state or thing.

For the foregoing reasons, reconsideration and withdrawal of the Section 101 rejection of claim 1 is respectfully requested.

Claims 2-6 depend upon independent claim 1. Withdrawal of the Section 101 rejections of claims 2-6 is respectfully requested at least by virtue of their dependence upon base claim 1.

Rejection of Claims 1-6 and 17-25 Under 35 U.S.C. § 112

Claims 1-6 and 17-25 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Specifically, claims 1-6 and 17-25 stand rejected as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

The Examiner states that the limitation of "*eliminating* a dithering pattern from appearing to a viewer observing a moving object on a picture" has not been described in the specification in such a way to reasonably convey to one of ordinary skill in the art of the claimed invention that the inventors had possession of the claimed invention at the time the application was filed. The Examiner further points out that the specification explicitly utilizes the terms "suppress," "suppressing," "suppressed," and "suppresses." (see, e.g., pages 9-10 of Applicant's specification).

Without prejudice, and to accelerate examination procedure, claims 1 and 17 have been amended by substituting "suppress" for "eliminate."

Support for the amendments may be found throughout the specification. Specifically, support may be found, for example, on pages 9-10 of the specification, as noted by the Examiner in Paragraph 4 of the Office Action of 22 December 2008. Accordingly, no new matter has been added.

Thus, as amended, claims 1 and 17 satisfy the written description requirement of 35 U.S.C. § 112, first paragraph.

Claims 2-6 and 18-25 depend from independent claims 1 and 17, respectively, and accordingly also satisfy the written description requirement of 35 U.S.C. § 112, first paragraph.

Claims 17-25 additionally stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Specifically, the Examiner states that the claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or to which it is most nearly connected, to make and/or use the invention.

To overcome a *prima facie* case of lack of enablement, the Applicant must demonstrate by argument and/or evidence that the disclosure, as filed, would have

enabled the claimed invention for one skilled in the art at the time of filing. The Examiner's review is described by the MPEP as follows:

The examiner must then weigh all the evidence before him or her, including the specification and any new evidence supplied by applicant with the evidence and/or sound scientific reasoning previously presented in the rejection and decide whether the claimed invention is enabled. The examiner should never make the determination based on personal opinion. The determination should always be based on the weight of all the evidence.

MPEP § 2164.05 (emphasis in original).

The Examiner states that "[i]n reference to claims 17-25, the claims recite a device for processing video data and a multitude of "means" for performing the invention (see dithering, motion estimation and outputting means of claim 17). ... however, does not enable one of ordinary skill in the art to make or use the invention since the specification does not explicitly define such means." The Examiner additionally states that "[t]he specification solely describes Figure 3 of the drawings with example "hardware" in a *block diagram* while further describing each of the means as "blocks." ... Nowhere in the specification is there any marriage of such "blocks" to any processing hardware that one of ordinary skill in the art would have at least interpreted to perform such "means.""

The Applicant respectfully traverses the rejection on the grounds that the Examiner has failed to present a proper *prima facie* case of lack of enablement. Furthermore, as hardware for dithering, motion estimation, and outputting are well known to a person of skill in the art, the claimed means are well within the capability of one of ordinary skill in the art, with no need for undue experimentation.

A proper *prima facie* case for lack of enablement "should focus on those factors, reasons, and evidence that lead the examiner to conclude that the specification fails to teach how to make and use the claimed invention without undue experimentation." MPEP Section 2164.04 (emphasis in original). The Office Action here failed to assert that one of ordinary skill in the art at the time the invention was made would not have been able to make and use the claimed dithering means, motion estimation means and outputting means without undue experimentation. Indeed, one of ordinary skill in the art would have had access to a variety of implementations for performing dithering, motion estimation and outputting.

In the art of processing video data, dithering, motion estimating, and outputting are well known to those of ordinary skill. Accordingly, it is conventional to disclose a device for processing video data as a design of hardware "blocks." By disclosing the hardware "blocks" and the functionality of such "blocks," one of ordinary skill in the art would be able to make or use the invention.

As evidence of the level of ordinary skill in the art, a known dithering device is disclosed in European patent application with the filing number 01 250 199.5 (the "199.5 application") as disclosed in the Applicant's specification on page 3, lines 26-27. Specifically, the 199.5 application discloses, in figure 10, a standard method of disclosing a method and apparatus for processing video data. This figure 10 provides a *block diagram* of the *hardware*, as is conventional in the field. As hardware to perform the recited functions is well known, one of ordinary skill in the art would be able to practice the claimed invention without undue

experimentation. A similar figure is shown in Fig. 4 of the European Patent Application published as EP 1136974A1, which application is also disclosed in the specification on page 3, lines 26-27. Analogously, the block diagram of the embodiment disclosed in the Applicant's figure 3 provides sufficient information for one of ordinary skill in the art to make or use the recited invention, without undue experimentation.

Moreover, dithering hardware was well known to those of skill in the art at the time of filing of the present application. For example, U.S. Patent No. 5,389,948, issued February 14, 1995, discloses, in Figs. 2 and 2(a), and col. 3, line 65 to col. 5, line 64, hardware for use in dithering.

Motion estimation is also well known, and one of ordinary skill in the art would have been able to implement motion estimator 14 of Fig. 3 or Fig. 4 without undue experimentation. By way of example, the prior art of record, such as U.S. Patent No. 6,421,466 (Lin), discusses various types of motion estimation in the Background of the Invention section, at col. 1, line 31 to col. 3, line 29, and Figs. 1-3. This discussion shows that one of ordinary skill at the time the invention was made could have made the motion estimator as recited in amended claim 17 without undue experimentation.

As to the recited "means for outputting said video data dithered to the display device," this corresponds, for example, to subfield coding unit 16, serial to parallel conversion unit 20, and control unit 18, illustrated in Fig. 3 and explained in the specification at page 11, line 20 to page 12, line 7. The specification states:

The video signals R₁, G₁, B₁ subjected to the dithering in the dithering block 12 are output as signals R2, G2, B2 and are forwarded to a sub-field coding unit 16 which performs sub-field coding under the control of the control unit 18. The plasma control unit 18 provides the code for the sub-field coding unit 16 and the dithering pattern DITH for the dithering block 12.

As to the sub-field coding, it is expressively referred to the already mentioned European patent application EP-A-1 136 974.

The sub-field signals for each colour output from the sub-field coding unit 16 are indicated by reference signs SF_R, SF_G, SF_B. For plasma display panel addressing, these sub-field code words for one line are all collected in order to create a single very long code word which can be used for the linewise PDP addressing. This is carried out in a serial to parallel conversion unit 20 which is itself controlled by the plasma control unit 18.

Furthermore, the control unit 18 generates all scan and sustain pulses for PDP control. It receives horizontal and vertical synchronizing signals for reference timing.

The above description would clearly be sufficient to enable one of ordinary skill in the art to implement output means without undue experimentation. Indeed, as plasma displays are well known, there are no grounds for any assertion to the contrary.

Thus, one of ordinary skill in the art would be able to implement the subject matter of claim 17, without undue experimentation.

Accordingly, the rejection of claim 17 35 U.S.C. § 112, first paragraph, for failure to fulfill the enablement requirement should be withdrawn.

Claims 18-25 depend from claim 17 and thus also satisfy the enablement requirement of 35 U.S.C. § 112, first paragraph.

Additional amendments have been made to claim 17 for clarification.

Support can be found throughout the specification, as noted above. Accordingly, no new matter has been added.

CONCLUSION

Applicants believe they have addressed all outstanding grounds raised by the Examiner and respectfully submit the present case is in condition for allowance, early notification of which is earnestly solicited.

Should there be any questions or outstanding matters, the Examiner is cordially invited and requested to contact Applicants' undersigned attorney at his number listed below.

Respectfully submitted,



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